



U.S. Fish & Wildlife Service

Māhuahua ‘Ai o Hoi

Community-based restoration of a Hawaiian Estuary



The mouth of He'eia stream as it empties into Kaneohe Bay. (Credit: Lea Hollingsworth)

Restoring Habitat, Community-Style

The *Māhuahua ‘Ai o Hoi Project* on windward Oahu aims to restore the biological, socioeconomic, and cultural productivity of 420 acres of Hoi coastal wetland and lowland forest habitat in He'eia *ahupua'a* for the benefit of the natural environment of the Kāne'ohe region and residents of He'eia community and Ko'olaupoko *moku*.

The project was initiated by the cultural and environmental organization Kāko'o 'Ōiwi in collaboration with The Nature Conservancy. Supported with financial and technical assistance from the Service, Hawaii Fish Habitat Partnership, and other partners, the project is creating a scientifically-grounded, site-specific conservation action plan and supporting on-the-ground aquatic habitat restoration. These efforts will, over the course of the 38 year lease secured from the Hawai'i Community Development Authority, inform and guide future conservation and restoration efforts of stream, wetland, estuary and

nearshore marine aquatic habitats throughout the lower He'eia watershed and nearby Kane'ohe Bay.

Māhuahua ‘Ai o Hoi has a strong human dimension as well, aiming to increase the local community's awareness, knowledge, and understanding of the both current status of native habitat and priority fish and invertebrate aquatic populations. Restoring the lower He'eia watershed will also create opportunities to farm taro using traditional Hawaiian land stewardship practices. Increased cultural access to these lands will help the community appreciate the value and role of native aquatic flora and fauna in He'eia wetland and Kāne'ohe Bay.



He'eia wetlands and stream is home to the endangered Ae'o (Hawaiian stilt, above). (Credit: USFWS)

Restoration Benefits and Challenges

He'eia stream, wetland and estuary complex is located adjacent to the largest embayment in Hawaii (Kāne'ohe Bay). The coastal wetlands, lowland riparian areas and nearshore marine habitats within He'eia estuary also represent an important area for diverse

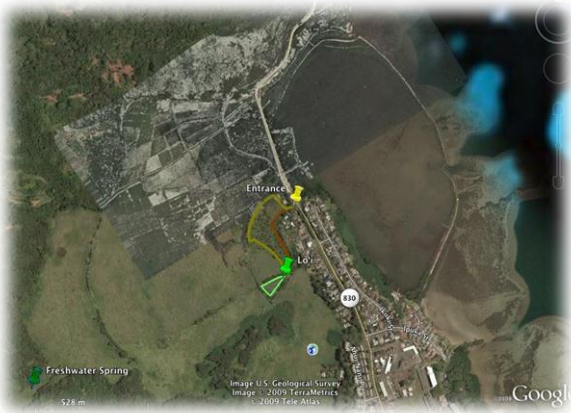


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native macrofauna as well as threatened or candidate endangered species.

Historically, the lower watershed was extensively used for taro production and invasive vegetation was actively controlled. Agricultural production ceased in the early 1900s, and since then, the lack of a land management plan has resulted in the dominance of non-native species within the ecosystem, yielding habitat unsuitable for many native organisms.



Aerial image of He'eia wetland and fishpond within the project site on Oahu (Credit: Brad Wong, Kāko'o 'Ōiwi)

Returning the Land to Pu'uhonua

Māhualua 'Ai o Hoi's mission is to establish the Hoi as a pu'uhonua: a place of sanctuary and healing. Significant steps have already been taken to move the Project closer that goal. Volunteers recruited and organized and by Kāko'o 'Ōiwi, the Ko'olaupoko Hawaiian Civic Club, and the Nature Conservancy dedicated hundreds of hours in 2011 and this year hand-clearing wetland vegetation for both the conservation wetland and taro-growing areas. University of Hawai'i-affiliated researchers and students are conducting aquatic monitoring in the wetlands, critical for collecting baseline data on the

wetland's existing water budget, dissolved oxygen levels, and vegetation structure. The fusion of applied science with civic engagement complements the natural, cultural, social and economic values of Hoi and the Project, which will ultimately benefit both the community and Hawai'i's unique natural resources.

Native Aquatic Species Benefitted

Hawaiian stream gobies: 'O'opu naniha (*Stenogobius hawaiiensis*), 'O'opu akupa (*Eleotris sandwicensis*)

Project Partners

Ko'olaupoko Hawaiian Civic Club; Kāko'o 'Ōiwi; The Nature Conservancy; Hawai'i Community Foundation; Hawai'i Fish Habitat Partnership; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration



Hawaiian stream gobies such as the 'O'opu nakea (*Awaous guamensis*) will benefit from He'eia estuary restoration efforts (Credit: USFWS)

For More Project Information, Visit:

- The Nature Conservancy's [project website](#)
- Māhualua 'Ai o Hoi [website](#); [Facebook page](#)
- Hawai'i Fish Habitat Partnership [information](#)
- Hawaii Public Radio [podcast](#)



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